SCOPING DOCUMENT
C.R. Kendall Environmental Impact Statement
Information on the EIS Process and Public Involvement

March, 2003

In February 2003, CDM, Inc. was contracted by the Montana Department of Environmental Quality (DEQ) to conduct the initial steps of an Environmental Impact Statement (EIS) of the proposed reclamation at the C.R. Kendall Mine, in Fergus County, Montana (Figures 1 and 2).

An EIS is a detailed study that analyzes the environmental effects of a proposed action and its alternatives. CDM and DEQ have prepared this brief scoping document to acquaint people with the proposed reclamation at the mine and the EIS process. We hope that you find it useful, and we welcome any comments you may have on issues that you believe should be addressed in the EIS.

The EIS Starts with Public Involvement…

The first step in the EIS process is to conduct public ***scoping*****.** Scoping is a process that determines what will be covered in the EIS and in what detail. In part, it includes the collection of written and verbal comments from the public. Scoping helps agencies identify environmental issues associated with the project and aids the development of reasonable reclamation alternatives.

The public scoping includes:

1. ***Scoping Interviews***. CDM held private interviews in Lewistown for the interested public on March 11, 12, and 13. In a direct mail flyer, an ad in the Lewistown ***Argus***, and public service spots on the local radio station, the interested public was encouraged to make appointments, or just stop by to talk. CDM interviewed 27 local residents, mostly area ranchers, during those interviews.
2. ***Scoping Meeting***. A public meeting will be held in Lewistown on April 9 to introduce the public to the EIS team, provide an overview of the EIS process, and answer general questions. The public will also be able to provide CDM with their comments and concerns about the EIS. An open house will be held immediately before the public meeting to provide information about technical issues and the proposed reclamation in an informal setting. The open house will focus on issues that were brought up most often in the scoping interviews (such as water quality and water quantity). The public is encouraged to attend.

Open House and Public Meeting for C.R. Kendall Mine Reclamation

CDM is an independent, third-party consultant hired by DEQ to prepare an Environmental Impact Statement for the reclamation of the C.R. Kendall Mine. We will be hosting an **open house** and a **public meeting** in Lewistown on **Wednesday, April 9, 2003**.
The open house will be from **4:00 to 6:00 pm**.
The public meeting will follow from **6:30 to 9:00 pm**.

The open house will be an opportunity for the public to meet one-on-one with technical staff having expertise in various areas (such as water quality or mine reclamation) to discuss e issues and view maps, posters, etc. The public meeting will bring the public up to date with what's going on and let them voice their opinions. People with an interest in the reclamation of the mine are encouraged to attend these events.

Both the open house and the public meeting will be held at the Yogo Inn, 211 E. Main, in Lewistown. For more information call Karen at CDM in Helena (406) 495-1414 x311. Also, please let us know by April 2 if you require accommodations under the Americans with Disabilities Act.

3. ***Technical Meetings*****.** CDM will facilitate up to eight working meetings with technical specialists and stakeholders from outside federal agencies (such as the Bureau of Land Management, Forest Service, Environmental Protection Agency, Fish and Wildlife Service), state agencies (such as Department of Natural Resources and Conservation and State Historical Preservation Office) and interested members of the public. Approximately four groups will be established and two meetings will be held for each group. These meetings will be held for those who are interested in becoming more deeply involved in the technical aspects of the EIS. Information from the questionnaire and open house will be used to help develop the member list for each group. Groups will be organized around primary interests (such as water quantity) and will discuss concerns and potential alternatives. Comments and concerns will be incorporated into the alternative process to further refine issues and potential alternatives. This will allow effective public and stakeholder involvement prior to the submittal of the draft EIS.

The results of the scoping activities will be presented in a scoping report which will be included as an attachment to the EIS and made available to the public via the mailing list and the DEQ website.

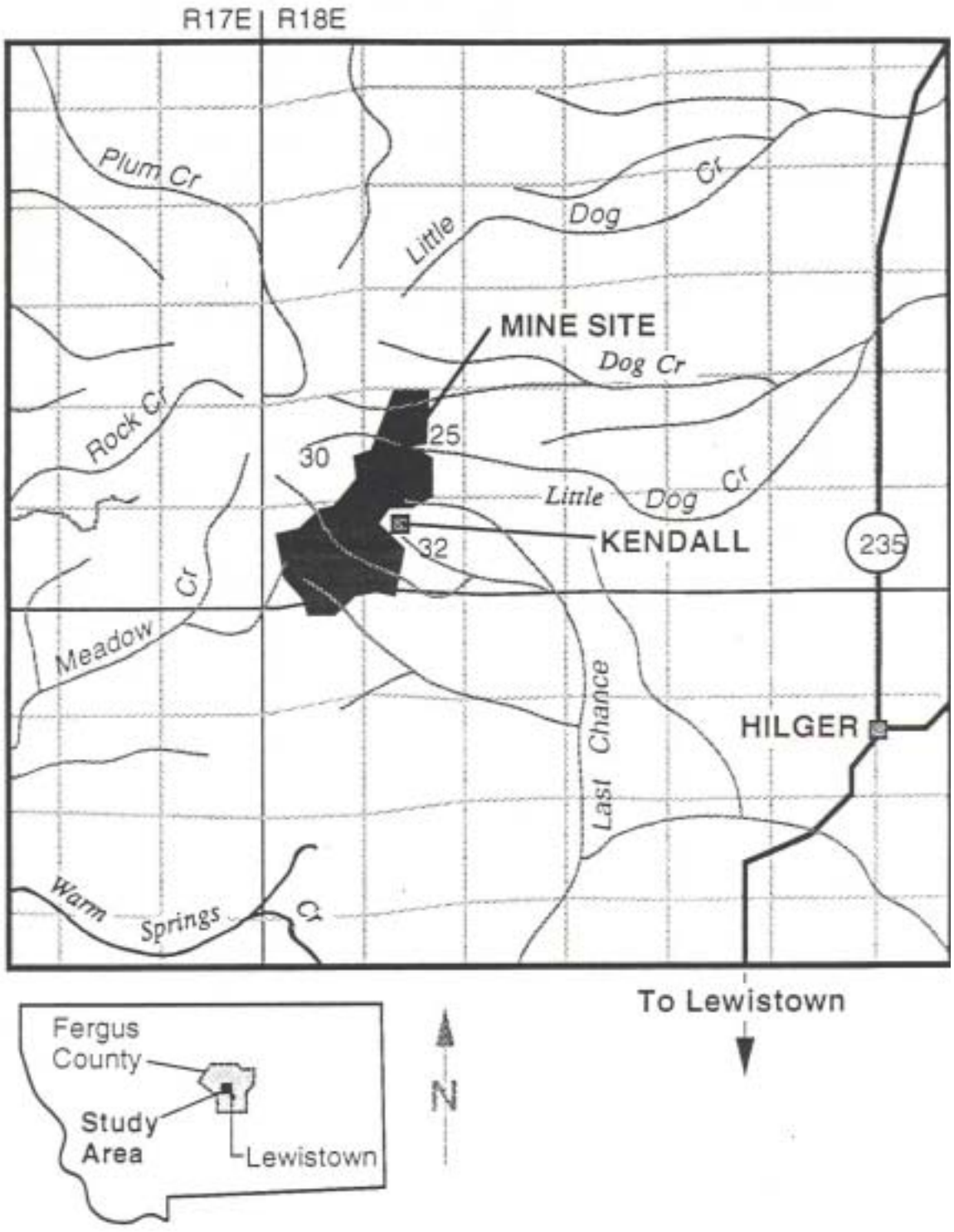

Figure 1 – Location of C.R. Kendall Mine

Figure 2—foldout aerial photo

Backside of foldout—no text

C.R. Kendall Mine History

The CR Kendall Mine is located in the North Moccasin Mining District in Fergus County (Figure 1). The area was discovered in the 1880s when placers were developed in Iron Gulch, Bed Rock and Plum Creek. In 1900, Harry T. Kendall developed mining properties on a north/south belt on the east side of the North Moccasin range and erected a 50 ton cyanide plant. In 1915, the Barnes-King Development Company purchased the Kendall mine and mill. By 1921 all the workings below the 500 foot level were stripped of machinery and by 1923 all worked ended. The mine is listed extensively in the mining literature as working from 1903 to 1920 and in 1939.

The C.R. Kendall Corporation began operations at the mine in 1984 and stopped processing ore in the fall of 1997. During that time, approximately 460 acres were disturbed. According to the Amended Closure Plan, by the end of 2000, only 138 acres still required reclamation. Of these 138 acres, the majority encompasses the ore processing areas in Mason Canyon, including two heap-leach pads, the process plant, process water ponds, and several ancillary buildings and roads. Other needed reclamation includes some resloping and partial backfilling of the Kendall and Barnes King pits.

In June 2000 the DEQ prepared an *Environmental Analysis of Revised Bond Calculation for C.R. Kendall* and determined that the new bond for surface reclamation should be set at $3,574,313 and the water collection and treatment bond should be set at $9,894,975. In February 2001, DEQ and C.R. Kendall Corporation entered into an agreement in which $1,869,000 in reclamation bond money held through a surety bond would be provided to DEQ for the exclusive use of reclaiming the mine. DEQ would administer these funds and would have oversight and final decision-making authority over reclamation activities at the site. C.R. Kendall would work cooperatively with DEQ in the development of a comprehensive reclamation plan and would provide assistance to DEQ to ensure that available reclamation funds are used efficiently.

It was C.R. Kendall's intent to complete the closure of the mine following the closure plan included in their operating permit (which has been amended several times since 1989). However, the closure activities have been put on hold until an EIS is completed with a preferred alternative for reclamation.

Relationship of Drainage Basins to Mine Pits

Closure concerns at the CR Kendall mine are primarily related to water quality and water quantity issues. The following provides an overview of the four mining pits on the Kendall property and the affected drainages. These pits and drainages are shown on Figure 2.

- **Horseshoe Pit.** The northernmost CR Kendall mine unit is the Horseshoe pit, which begins on the ridge between Dog Creek to the north and Little Dog Creek to the south. The pit extends southward to Little Dog Creek, where there is a small backfilled pit known as the South Horseshoe pit. The Horseshoe waste rock dump lies between the two pits, filling a portion of Little Dog Creek, and was reclaimed in 1994 and 1995.

- **Muleshoe Pit.** The next facility to the south, it is the largest of the open pits and is located within a southern tributary of Little Dog Creek. The Muleshoe waste rock dump is located to the south and east of this pit, and extends southward over the ridge into the headwaters of Barnes-King Gulch. The southern portion of the Muleshoe waste rock dump, within Barnes-King Gulch, overlies a significant quantity of tailings from the historic milling operations. Grayhall Resources started the pit and dump in 1986, and both were greatly expanded by Kendall. The Muleshoe dump was reclaimed in 1994 and 1995.

- **Barnes-King Pit**. South of the Muleshoe pit and located near the headwaters of Last Chance Creek. Mining activity at the Barnes-King pit was initiated in 1981 by Triad Resources. Small waste rock dumps have been reclaimed. The pit was expanded by Kendall and mining was finished in 1995.

- **Kendall Pit**. Mason Canyon, the drainage to the south of Last Chance Creek, contains the Kendall Pit and the processing facilities, including the gold recovery/water treatment plant, offices, ponds, and Leach Pad No. 3 and Leach Pad No. 4. Grayhall Resources had constructed two smaller leach pads in this valley, but they were excavated by CR Kendall and used as part of the liner cover material on the larger leach pads. Excess spent ore from the off-loaded pads #1 & 2 was buried in a road cut on the south slope of the process valley. Some historic tailings remain in Mason Canyon, mostly beneath the plant area, but most of the tailings originally in this location were excavated during leach pad construction and used as construction materials. Just south of the process valley is a very small unnamed drainage that is a tributary to Mason Canyon. The former land application areas, which were utilized between 1986 and 1994, are located at the headwaters of this drainage. The southernmost drainage influenced by the mine is the South Fork of Last Chance Creek. The headwaters of this creek are just south of the Kendall pit, and contain the Kendall waste rock dump. Construction of this dump began during 1991 and ended in 1994. The Kendall Dump was partially reclaimed in 1994 and 1995.

Why Do an EIS?

Over its years of operation, numerous amendments to C.R. Kendall's operating permit have been proposed and many have been approved by DEQ, with or without amendments. However, in August 2001, DEQ conducted a draft environmental assessment (EA) in response to an amended closure plan submitted in March 2001 by C.R. Kendall. This draft EA was met with opposition from some area residents, and seven comment letters were received by DEQ. The public comments raised several issues, including salts associated with disposal of process solutions, which could not be dealt with using the changes added to the Agency Modified Plan in the draft EA.

In the final EA, DEQ concluded that potentially significant cumulative effects on area resources from the combined current and reasonably foreseeable activities in the area were projected, and a complete reevaluation of potential reclamation materials on the site is needed to identify the potential impacts from disposal of process solutions with relatively large salt load.

DEQ stated that an EIS was needed to address the soil, vegetation, and water resources effects from this salt load and its effects on C.R. Kendall's proposed amended water resources management plan. These salts might have a detrimental effect on establishment and maintenance of a viable vegetative cover. No water from the site would be released until it meets standards set by DEQ in an Administrative Order on MPDES permit.

Since the final EA was issued, limited additional sampling data received by DEQ reinforces the concern that these salts should be better assessed before decisions on the ultimate thickness of the cover on the leach pad are made. It is possible that a subsoil layer, as proposed in the DEQ-approved amendment (2000) and C.R. Kendall proposed amendment (2001), may be necessary. This issue will be addressed by the EIS.

Key Elements of the EIS Process

- **Project Management Plan/Public Affairs Plan**
- **Public Involvement**
- **Agency Consultation**
- **Public Scoping**
- **Briefing of Elected Officials**
- **Data Gap Analysis**
- **Preparation of Supporting Reports**
- **Description of the Affected Environment**
- **Determination of Environmental Consequences**
- **Development of Significance Criteria**

Initial Issues of Concern

DEQ has identified five initial issues of concern. Additional issues of concern may result from the scoping process.

- ***Water Quality and Quantity***
- ***Waste Characterization***
- ***Reclamation Plan Changes***
- ***Costs and Sources of Funding for Reclamation and Long Term Maintenance***
- ***Impacts of Land Application Disposal and Disposal of the Reverse Osmosis Brine***

The EIS Process

The Issues

The EIS will address the major issues identified in DEQ's 2001 environmental analysis. As such, it will include:

1. Reevaluation of the reclamation plan, including all existing reclaimed acres on the site, and addressing a range of alternatives for reclamation.
2. Review of all potential impacts to water quantity and quality in the drainages.
3. Review of water rights issues, and Review of water treatment alternatives.

The EIS will present an analysis of the issues as they relate to the physical, biological, and social and economic effects of the proposed reclamation and various other reclamation alternatives developed during the scoping process. It will include analysis of the impacts of the project in combination with other past, present, or reasonably foreseeable activities in the project area. The "no action alternative", which assumes that the existing situation and trends continue, will be used as the basis for comparisons.

Developing the Alternatives

CDM and DEQ will use a consensus-building process known as the Stakeholder Involvement Process (SIP) to assist in developing a range of alternatives for the EIS. The SIP is a valuable tool in integrating divergent operational, financial, environmental, and socioeconomic interests of stakeholders during the EIS process.

Early attention to consensus building generally makes the project move more smoothly by assuring that stakeholders have an opportunity to voice their concerns and to be part of the overall decision making process.

The SIP gathers stakeholder input using various components of the scoping process outlined on the front page of this scoping document, specifically the:

- scoping interviews,
- open house/scoping meeting, and
- technical meetings.

As part of the SIP, CDM will also assist DEQ in compiling important EIS-related documents for an information repository. This will include all fact sheets and newspaper articles, as well as copies of the draft and final EIS.

If you would like to provide verbal comment for the scoping process, and have not already done so, you are invited to attend the open house and public meeting on April 9 (see front page for details).

If you are uncomfortable with the public meeting process, or are unable to attend for another reason, please call CDM's Community Involvement Coordinator, Karen Ekstrom at (406) 495-1414 x311. You may also write Karen at CDM, 28 N. Last Chance Gulch, Helena, MT, 59601 or email her at ekstromkl@cdm.com. If you are interested in participating in a technical meeting and have not already expressed an interest to CDM, please call or email Karen Ekstrom before April 19, 2003.

Alternatives to Be Considered

The following provides a brief description of the no action alternative, the alternative proposed by C.R. Kendall, and potential components of other alternatives to be considered for reclamation of waste rock and leach pad materials and for handling of contaminated water.

The No Action Alternative

The no action alternative is essentially those activities that are currently approved for reclamation of waste rock and leach pads and handling of ground and surface water at the C.R. Kendall mine.

Reclamation of Waste Rock and Leach Pads

The no action alternative for reclamation of waste rock and soils at the C.R. Kendall Mine is the 1995 approved reclamation plan for the site. This plan contained changes in the proportions and types of soils and other reclamation materials compared to the 1989 reclamation plan, but not a reduction in the volume of the reclamation materials. The plan called for use of reduced permeability layers (RPLs) and a water barrier type cover system for use on the waste rock dumps and the leach pads to limit water infiltration and permeability through the mine wastes.

This plan consists of four layers of materials, with a total thickness of 52 to 56 inches:

- 10 to 14 inches of topsoil
- 18 inches of subsoil (suitable waste rock with some soil-like properties)
- 12 inches of drain material (pit run limestone)
- 12 inches of compacted clayey waste rock

The function of the RPL cover was to provide a barrier to water infiltration (clay layer), yet allow for water entering the cover to be conveyed (drain layer) to storm water ditches. Subsequent testing of seepage issuing from the drain layer into storm water ditches after storm events revealed that the capping materials themselves may be a source of contaminants such as thallium. This indicated that the RPL covers may not be appropriate at the C.R. Kendall mine, especially if the materials from which the covers are constructed are derived from native materials within the local mining district.

Management of Ground and Surface Water

Water contamination was not evident in 1995 and was not included in the approved reclamation plan for the site. However, under DEQ Administrative Order WQ-98-06, C.R. Kendall is required to collect and pump intercepted groundwater seepage from all of the named drainages. Captured water is to be treated and returned in equal amounts to Little Dog Creek and to the South Fork of Last Chance Gulch.

On average, the capture systems intercept and remove about 5 to 11 gallons per minute of shallow groundwater from Little Dog Creek, Barnes-King Gulch, Mason Canyon, and South Fork Last Chance Creek. Pumpback rates vary substantially according to season. Since 1997, seepage totals have been: 2001, 19.3 million gallons (mg); 2000, 23.7 mg; 1999, 23.0 mg; 1998, 23.3 mg; and 1997, 24 mg.

Groundwater captured in the pumpback system shows elevated levels of contaminants derived from mining activities and mineralized rock, including: sulfate, nitrate, selenium, thallium, total cyanide, and arsenic. The water is land applied or treated with zeolite and sent to the pits. Water from two wells is returned to Little Dog Creek and South Fork of Last Chance Creek drainages in quantities similar to what was pumped from them during the previous year. Discharge of this water is to the surface drainage at a point down gradient from the collection system. Water discharged in this manner may either continue as a surface flow or report to groundwater. This is the no action alternative for contaminated water.

Prior to 2000, C.R. Kendall had disposed of treated seepage water by evaporation, irrigation (LAD) and discharge into the Kendall and Muleshoe pits. Beginning in 2000, the mine has used LAD to dispose of 100% of all collected seepage water, as it is of sufficient quality to forgo treatment prior to LAD.

During months when irrigation is not possible, the seepage water is stored in lined containment ponds at the site or, if additional capacity is required, within the leach pads. In 2001, 3.1 million gallons were treated with zeolite columns and discharged to groundwater via the Kendall Pit. Approximately, 26.2 million gallons of water were land applied.

Process water from the leach pads has been managed via three options for water balance control:

- evaporation,
- treatment via reverse osmosis followed by discharge of the treated stream into either the Muleshoe or Kendall pits, or
- irrigation of the pad waters onto reclaimed waste rock dumps.

In 1999, C.R. Kendall used a combination of reverse osmosis and irrigation to dispose of approximately 14.5 million gallons of process water. Evaporation is not a preferred management option due to high electrical costs and the resulting increased concentration of pollutants in the solution remaining after evaporation. Similarly, reverse osmosis treatment involves significant electricity demands and in addition to a clean effluent, produces a concentrated waste stream (brine) which still must be managed via retention in ponds, shipping to a licensed disposal area, or land application.

In 2000, C.R. Kendall used LAD exclusively for the disposal of its process water. The current permitted LAD area encompasses approximately 250 acres, of which only a fraction (30–40 acres) is used at any one time with application rates averaging 100 to 200 gallons per minute. C.R. Kendall disposed of approximately 26.2 million gallons of seepage pumpback and process water through irrigation between May and November in 2001.

The Proposed Alternative

As part of a February 2001 agreement with DEQ, C.R. Kendall provided a reclamation and water management plan (*Kendall Mine, Permit #00122, Amended Closure Plan)* for DEQ's consideration on March 8, 2001. This amended plan is the proposed alterative for reclamation for the EIS.

Reclamation of Waste Rock and Leach Pads

Kendall's amended closure plan included a 36-inch reclamation cover for the leach pad that consisted of two layers:

- 17 inches of topsoil
- 19 inches of subsoil (suitable waste rock with some soil-like properties)

Management of Ground and Surface Water

The proposed alternative for handling of contaminated water in the 2001 amended closure plan entails continued use of the pumpback system, with no treatment of the recovered water. At two of the pumpback sites (South Fork and Mason Canyon), C.R. Kendall proposes to release water directly to the drainages, as water quality is either at or very near compliance levels.

The pumpback water and water collected from the leach pads would be stored in ponds onsite until it is removed for on- or off-site agricultural irrigation purposes.

Process valley storm water drainages would be constructed in bedrock to channel flow.

Potential Components of Other Alternatives

During the initial phase of the EIS, reasonable alternatives for reclamation will be developed to provide a clear basis for choice among the options by the decision makers and the public. These alternatives will include mitigation measures to avoid, minimize, or reduce the magnitude or intensity of the proposed adverse impacts.

The information obtained during the scoping process will be used to develop these alternatives, ensuring that significant and substantive issues identified during the scoping process will be addressed by the EIS.

The following are examples of possible components of the alternatives that will be evaluated during the EIS. These components are based, in part, on feedback obtained during the public interview process in Lewistown. This list is meant to show the range of possible alternatives and is not intended to be inclusive of all alternatives.

Reclamation of Waste Rock and Leach Pads

Potential components of alternatives for reclamation of waste rock and leach pads at the site may include one or more of the following:

- Total or partial backfilling of the pits.
- Capping of leach pads with an RPL system.
- Capping of leach pads with a water balance system.
- Use of a geotextile filter fabric in the leach pad cap.
- Removal of leach pad wastes to another facility.
- Excavation of waste rock from drainages and placement in pit.
- Relocation of waste rock dumps.

Management of Ground and Surface Water

The long term water management objectives for the North Muleshoe, Barnes-King, Mason Canyon and South Fork of Last Chance Creek drainages are to improve water quality and to restore historic flows to the drainages.

Potential components of alternatives for handling contaminated and uncontaminated water at the site may include one or more of the following:

- Continued use of the pumpback system.
- Discontinuance of the pumpback system.
- Augmentation of surface water flows using ground water.
- Collection of leachate water.
- Direct release of leachate water.
- Land application of treated water.
- Land application of untreated water.
- Land application of brine.
- Treatment of water using zeolite columns to remove thallium with on-site disposal of spent zeolite.
- Treatment of water through reverse osmosis and disposal of the brine.
- Rerouting of storm water to prevent losses to the pit during high volume events.
- Construction of passive treatment wetlands to treat both storm water runoff and process flows.

EIS Deliverables

CDM will prepare technical documents to support land reclamation and water treatment decisions, with special emphasis on water quality and quantity for downstream users/receptors. These documents may include: evaluation of engineered cover alternatives, water treatment alternatives, water treatment and/or disposition, and sensitive species; a biological assessment of threatened and endangered species; a wetlands investigation; and a hydrological investigation.

A scoping document will be prepared as part of the initial EIS activities and will be available to the public via the mailing list and the web site.

Major deliverable that will be available for public comment are:

- ***Draft Environmental Impact Statement.*** After the draft EIS is published, there will be a 30-day public comment period that will be advertised via a general press release and a public meeting.
- ***Final Environmental Impact Statement.*** This document will present substantive comment and agency response and any changes to the Draft EIS.

Record of Decision. A Record of Decision (ROD) is a concise public document, issued by the agency at the completion of the EIS. It identifies the findings and conclusions reached by DEQ in making its decision for a preferred alternative. The ROD summarizes the major issues and considerations, describes the potential effects, documents the decisions, and identifies necessary steps to lessen the effects on the environment.

EIS Schedule

The EIS process began in February of 2003 and is scheduled to take 13 months to complete. **However, DEQ currently has only enough funding to authorize CDM to conduct the initial three tasks of the draft EIS. If additional funding becomes available, DEQ and CDM would continue the draft and final EIS process**.

Task	Month Due
Draft EIS	
Conduct Scoping*	**2**
Hold Public Meeting*	**2**
Identify Additional Alternatives*	**4**
Complete Preliminary Draft	6
Complete Revised draft	7
Prepare Mailing list	8
Publish and distribute draft EIS	8
Public Comment Period	9
Public Hearing	9
Final EIS	
Review of public comment	10
Preliminary final EIS for internal review	11
Revised draft prepared	12
Mailing list updated	12
Publish and distribute final EIS	13

*** Tasks for which funding has been authorized.**

Do You Need Additional Information?

Additional detailed information on the Kendall site is available from the following sources:

- **Patrick Plantenberg, DEQ, (406) 444-4960** - *Specific information about the C.R. Kendall Mine Operating Permit and the no action and proposed alternatives.*
- **Kathy Johnson, DEQ, (406) 444-1760** - *General questions on the EIS process.*

You may call **Karen Ekstrom at CDM (406) 495-1414 x311** to provide verbal comment for the scoping process. You may also write Karen at CDM, 28 N. Last Chance Gulch, Helena, MT, 59601 or email her at ekstromkl@cdm.com.

If you are interested in participating in a technical meeting and have not already expressed an interest to CDM, please call or email Karen Ekstrom before April 19, 2003.

Don't forget about the Public Meeting on April 9!

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